

Application No: 10/710,376
Amendment A
Reply to Office Action Dated 05/22/2007

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Attorney Docket No: 3883.025

IN THE DRAWINGS:

Replacement drawings sheets 1/9 to 9/9, which replace the originally filed drawings, are attached to this response.

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REMARKS

Claims 1-8 are pending in the application. Claims 1-8 have been amended.

First, it is noted that the Examiner has incorrectly indicated that claims 1-7 are pending because claims 1-8 are pending in the application.

Drawings

In response to the Examiner's requirement, Applicants submit herewith new Figs. 1-9 of better quality to replace the originally filed figures.

Claim Objections

Claims 1-7 are objected to because of informalities.

Appropriate correction has been made.

Claim Rejections - 35 U.S.C. § 112

The Examiner has stated that the term "real-number" in claims 1-7 appears to be used by the claims to simple mean "part number" [paragraph 46], while the accepted meaning of "real-number" is an integer including a fractional part.

The term "real-number" has been changed to "numerical" to avoid any confusion.

Claim Rejections - 35 U.S.C. § 102 & 103

Claim 1 is rejected under 35 USC 102(b) as being anticipated by Kiriara et al. (US 5,339,247).

Claim 2 is rejected under 35 USC 103(a) as being unpatentable over Kiriara et al. in view of "BASIC for Beginners" (Conley, Petrorcelli Books Inc. 1982).

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Claims 3-8 are rejected under 35 USC 103(a) as being unpatentable over Kirihara et al. in view of "BASIC for Beginners" and in further view of "GEOMNET: Geometric Computing over the Internet" (IEEE Internet Computing, Barequet et al., Vol. 3 No. 2, pp. 21-29 (March-April 1999)).

Applicants note at least the following differences between the cited references and the present invention and the advantages of the present invention:

1. In the present invention, the storage means for storing basic data for the graphic data is part of the server; whereas in Kirihara et al. the basic data for the graphic data is stored all over the place (distributed parts shape file 201, 202, 203, 204).
2. In the present invention, the program data transmitting section reads the basic data for graphic data from the storage means directly and sends the data to the client computer; whereas in Kirihara et al. the server WS 1 first obtains the shape name and the logical path name from the parts intrinsic information table 33 and then reads out the shape data from the file designated by the logical path name and sends the data to the client WS 2.
3. Kirihara et al. do not disclose the concept of substituting the specified real data into the variables of the specified variable program, then executing that program and creating graphic data. Rather, in Kirihara et al. the client merely displays the shapes of the parts (drawings 21 and 22) existing in the distributed parts shape file (see column 4, lines 42-45).
4. According to Kirihara the graphic data are prepared before hand and according to the request from the client it searches and assembles the graphic data found. In contrast, in the present invention, the numerical data are prepared before hand or else the client can manually input the desired numerical data then substituted into the variable program to create parametric graphic data.
5. The user being able to input the numerical data manually allows the user to create an infinite specification of graphic data desired.
6. By storing numerical data and variable program on the server side, these data are distributed using the facility of network, and according to the client demand only numerical data and variable program are transmitted to a client through networks, such as the Internet, then the graphic data can be produced in real time.

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7. Further by storing the numerical and variable data on the server side it facilitates the updating or addition of new data.
8. Variable program by "Union Parts-Basic" for CAD figure creation is created using the interpreter-type program language.
9. This interpreter-type program language is unlike the general purpose BASIC (GW-BASIC or Turbo BASIC) originally developed. The exclusive command which creates CAD figures, such as point, line, circle, arc, including special geometries (square and the like), was prepared by double precision. Further, the conditional branch command such as IF... THEN, GOTO was also prepared.
10. Using the commands mentioned above it facilitates when creating variable programs.
11. Further, "Union Parts-BASIC" was originally developed, therefore it can also create and add the command which have special geometries according to the demand.
12. Variable program made by "Union Parts - BASIC" does not require compilation technology therefore the variable programs can be treated like data.
13. Since variable programs existences are like data in a system, therefore changing into a database is easily realizable.
14. Further, variable program is not dependable on compile technology therefore by connecting through networks, such as the Internet it can be saved in a general-purpose database in real time without compilation.
15. Once the variable programs are saved on the general-purpose database it can be used in real time through networks such as the internet.
16. From the examiners point of view, GeomNet system is a client-server architecture to provide easy Internet access to geometric implementations via a plug-and-play environment and specifically, the GeomNet system includes java wrappers directed to embedded applications". However, variable program is treated as data in the present invention and therefore wrappers technology and plug-and-play techniques are not required.
17. In GeomNet the variable program and the whole system application act as a set. However, in Union Parts the variable program and system application is separated and saved as data therefore the methods are clearly different.

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18. Whenever adding variable program or updating it, Geomnet adopts plug-and-play technique and wrapper technology therefore the delivery system programs have to be recompiled and the server must be paused. This type of inconvenience does not exist in the present invention.
19. Besides, the database can store a large quantity of variable programs.
20. Variable programs have reached tens of thousands of units in the present invention.
21. Furthermore, by substituting the corresponding numerical data (tens of thousands units) to the corresponding variable programs (tens of thousands) a large number of graphic data are possible to be created.
22. Separating the variable program from the delivery system application and by saving on the database it allows the development and updating costs to reduce dramatically, and therefore sophisticated than GeomNet.
23. This means the technology used for this invention is not the same opinion as the technology in the prior art such as GeomNet.
24. Furthermore, the opinion to which the examiner states that this invention can be easily performed by combining the prior invention of Kiriara and the GeomNet however this opinion is also invalid.
25. There is also a visual tool to help simplify when developing variable program.
26. Variable programmer in the present invention does not require the technique and the knowledge of software development such as wrappers technology or the plug-and-play technique. By simply having Geometry and drafting knowledge (machine and architecture) it is enough to develop the variable program.
27. Further, the time consumption is reduced while less concentration in knowing how to operate the software and more concentration in actual development of variable program.
28. The present invention of CAD system utilizing network is constructed by combining a parametric method and a parts data management system on the Internet and this combination has a great advantage.
29. The CAD system of the present invention was developed to deliver machine parts, electronic parts, and building part through networks such as the Internet.

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30. CAD graphic data for parts sold by various parts manufacturers are made to suit every users. Therefore, unlimited number of CAD graphic data are created and supplied in various formats by various parts manufacturers.
31. Recently, by implementing this kind of graphic data using CAD, it has become possible to design a desired product in a very short period of time. By skillfully employing commercially sold parts and standard parts into products, it is possible to design inexpensive and high-performance products in a short period of time. Therefore, CAD graphic data is starting to occupy an extremely important position.
32. This present invention was aimed to make a system which could easily deliver CAD part data on a network.
33. First the attention was paid to the importance of creating indispensable CAD part data common to everybody using parametric techniques (numerical data being substituted for the variable of the corresponding variable program and operation being performed according to the variable program, and a vector form graphic data being created for the CAD).
34. Machine parts, electronic parts, building parts (sink, chair, table, toilet, plumbing, etc.) and the like have a large number of parts that have the same shape but are different sizes. An example of this kind of part is a typical hexagonal bolt that is an element part in machines. There are almost infinite number of parts that have the same shape with different sizes and length. Since, in order to completely satisfy users' needs, it has to store an almost infinite number of parts, it is impossible to record and supply graphic data for each individual part. Therefore, in order to satisfy the users completely, it becomes necessary to supply the graphic data as parametric CAD part data like in the present invention.
35. In considering the case of not being able to supply CAD part data over a network such as the Internet using this parametric method, one must personally record and store data that is common to everyone as a collection of CAD data in a memory apparatus in personal or company units. Also worldwide engineers employed by manufacturers are doing such things, and this work is very much a waste of labor.
36. An invention that is user friendly constituting parametric technique with the part data management system on networks such as the Internet and further collecting, updating,

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developing data which are common to everybody in specific places, allowing to supply data to everybody by simple steps. (Anyone can use it from anywhere, anytime).

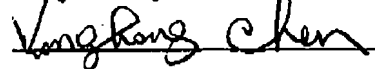
37. As mentioned above, the present invention is realizable by taking the composition of the followings: numerical data and variable program (basic data of a figure) stored in the server computer; numerical data and variable program are transmitted from the server computer to the client computer according to the demand from the client; numerical data is substituted for each corresponding variables, then operation processing is carried out to generate graphic data and a figure is displayed on a display device, and CAD data is outputted.
38. Due to the above differences, the CAD system according to the present invention has the advantage of obtaining data faster and constructing graphics with flexibility (not just displaying existing shapes).

The present invention as claimed is, therefore, believed to be patentable over the art and the Examiner is requested to withdraw the rejections under 35 USC 102 and 103. A detailed explanation of a real world example of application of the present invention prepared by one of the inventors is attached to this response to assist the Examiner's understanding of the present invention.

Favorable consideration and early issuance of the Notice of Allowance are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Date: August 20, 2007

Respectfully submitted,



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